

PRECIPITATION.

Over the greater part of the country where liberal precipitation usually occurs during the midsummer month, the falls were, on the whole, deficient as compared with the normal. This was particularly the case from Texas and near-by localities northeastward over Oklahoma, Kansas, Missouri, Iowa, and to Lake Michigan, and from the lower Lakes to northern New England. In the Gulf States and thence northeastward to southern New England there was much diversity in the monthly amounts, some localities having generous showers at favorable intervals, while near-by areas suffered from serious shortages. Over the middle and northern Rocky Mountain regions and thence westward, where precipitation is generally insufficient for best crop growth, the falls were frequent and nearly everywhere above normal. This was particularly the case from Colorado northward into the western Canadian Provinces, where precipitation was unusually heavy for the period of the year and in some localities, notably in Wyoming, the month was the wettest of record for July.

In portions of Kansas and generally over Oklahoma and the greater part of Texas, including portions of adjacent States, the precipitation for the month was far less than the normal requirements, and serious need of rain existed at the close, the droughty conditions being augmented by a general lack of sufficient moisture during the latter part of June over the same area and by the high temperature during much of July.

The more or less serious need of rain, being felt in June over many Atlantic coast districts was mainly overcome at various periods during the month, so that

by the end no important areas over the eastern portions of the country were seriously in need of rain, save locally in the Middle Atlantic States, principally in northern New York, eastern Pennsylvania, and portions of New Jersey.

In the far Southwest, where the July precipitation is usually the maximum for the year, the falls were timely and mainly more than normally received.

SNOWFALL.

In California snow covered some of the highest peaks of the Sierra Nevada on several dates, an unusual phenomena during the midsummer. In other mountain districts not more than traces of snow were reported.

The supply of water for irrigation, hydroelectric power, etc., appears to have been adequate in the western districts where storage is necessary.

RELATIVE HUMIDITY.

The extremely dry and hot weather prevailing during much of the month over Oklahoma and to the southward moderately influenced the percentage of relative humidity, which ranged up to an extreme of 14 per cent below the normal. The more or less droughty conditions in the middle Mississippi Valley and thence to the Great Lakes and portions of the Northeastern States were associated mainly with deficient relative humidity. In the districts from the middle and northern Great Plains westward to the Pacific the relative humidity was nearly everywhere above normal, due to the general frequency of cloudy, rainy weather. Elsewhere humidity conditions were mainly near the normal.

SEVERE LOCAL STORMS, JULY, 1923.

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau.]

Place.	Date.	Time.	Width of path (yards).	Loss of life.	Value of property destroyed.	Character of storms.	Remarks.	Authority.
Westchester Co., N. Y.	4					Hail.	Large amount of damage to crops.	Official, U. S. Weather Bureau.
Pittsburgh, Pa.	6	P. m.		1		Electrical and wind.	Buildings and wires damaged.	Do.
Northeast and east central Iowa.	7					Wind and hail.	Growing crops severely damaged.	Do.
North Dakota (southeast portion of).	8					Wind, rain, and hail.	Heavy damage reported.	Do.
Pittsburgh, Pa., and vicinity.	10					Electrical and wind.	Electric light and power lines blown down and sign boards damaged.	Chicago (Ill.) Daily News.
Ringling, Mont. (vicinity of).	10					Tornado.	House and barn wrecked.	Official, U. S. Weather Bureau.
Western Iowa.	10				\$200,000	Wind and hail.	Heavy crop loss.	Do.
Detroit, Mich.	10					Electrical, wind, and hail.	Considerable damage by lightning and floods.	Do.
Sanders Range, Md.	11			3		Electrical.	Tent destroyed and 14 persons injured.	Do.
Clinton Co., Ind. (western part of).	11					Wind, rain, and hail.	Growing crops badly damaged.	Do.
Decatur, Ill. (vicinity of).	11			1		Thunderstorm.	Considerable minor damage; two barns destroyed by lightning.	Do.
Oak Hill, Ill. (vicinity of).	11				10,000	do.	General damage reported.	Do.
Granite, Okla.	12			2		Tornado.	Considerable property loss.	Dallas (Tex.) Morning News.
Dayville, Oreg. (vicinity of).	13					Heavy rains.	Much damage to crops; some loss of live stock.	Official, U. S. Weather Bureau.
Wichita, Kans. (vicinity of).	14	P. m.		1		Wind, rain, and hail.	Farm houses damaged, barns blown down, crops destroyed, and other minor damage.	Wichita (Kans.) Beacon.
Green Bay, Wis., and vicinity.	14	do.				Wind and rain.	Several persons injured; houses and orchards damaged.	Official, U. S. Weather Bureau.
Dayville, Oreg. (vicinity of).	15					Heavy rains.	Crops considerably damaged; some live stock killed.	Green Bay (Wis.) Press Gazette.
Gallatin Valley, Mont. (near Willow Creek).	16	P. m.				Wind, rain, and hail.	Extensive damage to homes, crops, and communication lines.	Official, U. S. Weather Bureau.
Liberty, Ariz. (near).	22	do.			2,000-3,000	Thunderstorm.	Highways damaged and small buildings and poles blown down; minor railway washouts.	Post (Denver, Colo.).
Essex Co., N. J.	22	do.		2		Electrical and wind.	Poles blown down and traffic interfered with; many persons injured.	Official, U. S. Weather Bureau.
Tullahoma, Tenn.	22					Wind and rain.	General damage reported.	Herald (New York).
Knoxville, Tenn.	22				25,000	Thunderstorm.	Trees and poles blown down; plate glass windows broken.	Official, U. S. Weather Bureau.
Las Vegas, N. Mex.	23					Wind and floods.	Considerable damage.	Do.
Glendale, Ariz., and vicinity.	29	P. m.			5,000	Wind and rain.	Several buildings destroyed and others damaged; other minor damage.	Do.
Parts of Jasper, Newton, McDonald, and Barry Counties, Mo.	29	do.			300,000	Wind, rain, and hail.	Heavy damage, principally to crops.	Do.